ASSAP MOPS AI #5 Status

Tom Eich

June 06

ASSAP MOPS AI #5

- **AI #5: Provide a white paper which discusses processing options related to the selection of ADS-B/TCAS tracks for tracks pairs that spatially correlate, do not spatially correlate. Scenarios to discus the advantages/disadvantages of displaying TCAS/ADS-B, the advantage/disadvantages of providing ASA applications the ASAS track if not correlated with TCAS.**

ASSAP MOPS AI #5

- **Status**
  - **1st: Rely on the State Data – Accuracy and Integrity for ADS-B and TIS-B tracks; this includes Own-Ship Report**
  - **2nd: When installed along with a TCAS system – The ASA system must not interfere with TCAS as a safety system for collision avoidance.**
    - **ASA MASPS excerpt from pg C-20, "… in order for TCAS to operate successfully when used in conjunction with an ASA system, it is necessary that the ASA system not interfere with the normal operation of TCAS. It is possible that an ASA system and TCAS may share the same traffic situation display. Careful design is required to ensure that the ASA system does not interfere with TCAS operation by displaying false or duplicate traffic, or by preventing the proper display of TCAS information on the traffic situation display."**

ASSAP MOPS AI #5

- **ADS-B or TIS-B track will be used for display position unless:**
  - **In order to satisfy the previous requirement, propose a spatial window check against a correlated TCAS track. When the spatial window check fails, then the TCAS track will be used for display position.**
  - **Goal: Minimize the chances of a switch to TCAS by using the largest window as possible without compromising TCAS's intended function.**
    - **Range of 0.5 nmi. - The EV Acquisition State Data (NAC >= 5; .5nmi) satisfies basic visual aid acquisition based on TCAS experience.**
    - **Bearing of +/- 45 degrees. Based on hybrid surveillance.**
    - **Both the EV Acquisition application and TCAS display are based on visual aid of traffic. The EV Acquisition application contains the least required accuracy of all the applications**
    - ***Note: TCAS alerting will always be based on TCAS active tracks.***

ASSAP MOPS AI #5

- **When the spatial check fails, propose deleting the correlated ADS-B track to the ASA applications.**
  - **ASA Applications can only use ADS-B or TIS-B traffic (not TCAS) based on criteria that include accuracy as defined in Table 2-3 in the ASA MASPS.**
  - **The integrity/accuracy of the track data is in question.**
  - **Eliminates the display using TCAS position while the ASA application is using ADS-B position data in question.**

ASSAP MOPS AI #5

- **Propose only displaying one symbol for any one aircraft.**
  - **ASA MASPS excerpt from pg. 6, "The TCAS traffic display may be a separate display or TCAS traffic may be integrated with ASA surveillance data and presented in a combined format. If TCAS traffic is integrated with other surveillance data, only one symbol should be displayed to the flight crew for any one aircraft."**
  - **ASA MASPS excerpt from pg. 142, "When both TCAS/ADS-B and TCAS/TIS-B traffic data are correlated, only a single representation of the traffic shall be displayed."**
  - **May want a flight crew alert or fault when the correlation window is failed?**